

## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	5665	204/192.12.ccls. 204/192.15.ccls. 204/192.16.ccls. 204/192.13.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/16 13:36
S1	1234	sputter\$5 and ((aluminum al) with target) and (oxygen "o.sub.2") and ((turn\$4 rotat \$4) with (substrate wafer))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/05/21 10:29
S2	16	sputter\$5 and (((alpha near3 Al) (alpha near3 aluminum) ".alpha. Aluminum" ".alpha. Al"))) and ((aluminum al) with target) and (oxygen "o.sub.2") and ((turntable turn \$3 rotat\$4) with (substrate wafer))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/05/21 10:33
S3	325	204/298.28.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/05/21 10:40
S4	33	sputter\$5 and (corundum) and ((aluminum al) with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/05/21 11:05

S5	21	sputter\$5 and ((aluminum al) with target) and ((O2 oxygen "o.sub.2") with gas) and (corundum (alpha adj aluminum) (alpha-aluminum))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 07:50
S6	37	sputter\$5 and ((aluminum al) with target) and (poisoning and transition and metal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 07:52
S7	36	("4420385"   "4931169"   "4978437"   "5026471").PN. OR ("5292417").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2008/09/02 09:59
S8	11	sputter\$5 and ((aluminum al) with target) and ((poison \$3 and transit\$3 and metal\$4) near3 mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:08
S9	22	sputter\$5 and ((aluminum al) with target) and ((poison \$3 and reactive) near3 mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:12
S10	4	sputter\$5 and ((aluminum al) with target) and ((poison \$3 and reactive) near3 mode) same ((metal metallic) (transition transitional)) near3 mode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:13
S11	38	sputter\$5 and ((poison\$3) near3 mode) same ((metal metallic) (transition transitional)) near3 mode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:15

S12	168	sputter\$5 and ((non-metallic) (non adj metallic) (oxide) poison\$3) near3 mode same ((metal metallic) (transition transitional)) near3 mode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:31
S13	18	sputter\$5 and ((non-metallic) (non adj metallic) (oxide) poison\$3) near3 mode with (seed underlayer initial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:39
S14	42	sputter\$5 and ((non-metallic) (non adj metallic) (oxide) poison\$3) near3 mode same (seed underlayer initial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:42
S15	191	sputter\$5 and ((non-metallic) (non adj metallic) (oxide) poison\$3) near3 mode same (seed underlayer initial first start early)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:44
S16	149	S15 not S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:44
S17	1055	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (lower reduce reduction) with temperature	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:56

S18	833	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (lower reduce reduction) near4 temperature	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 10:57
S19	135	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (first and second) near3 temperature	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:04
S20	272	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (lower\$3 reduc \$4 decreas\$3) near3 temperature with (deposit\$3 sputter\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:10
S21	155	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (increas\$3 rais \$3) near3 (deposition adj rate) with (deposit \$3 sputter\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:22
S22	3	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (initial) near3 (deposition adj rate) with (deposit \$3 sputter\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:23

S23	5	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (start\$3) near3 (deposition adj rate) with (deposit \$3 sputter\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:23
S24	65	sputter\$5 and ((aluminum al) with target) and ((oxide oxygen o2 "o. sub.2") with gas) and (chang\$3 increas\$3 decreas \$3) near3 (substrate near3 bias)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:26
S25	12	("4428811"   "4749629"   "4835062"   "5310603").PN. OR ("5789071").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2008/09/02 11:32
S26	9403	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o. sub.3")) and (deposition rate) with (change increas\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:36
S27	621	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o. sub.3")) and (deposition adj rate) with (change increas\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:39
S28	484	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o. sub.3")) and (deposition adj rate) near4 (change increas\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:39

S29	2	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o.sub.3")) and (deposition adj rate) near4 (ramp \$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:46
S30	0	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o.sub.3")) and (deposition adj rate) near4 (initial and subsequent)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:49
S31	9	sputter\$5 and (corundum (aluminum adj oxide) ("al.sub.2o.sub.3")) and (deposition adj rate) near4 (initial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:49
S32	850	((aluminum adj oxide) (alumina) ("al.sub.2o.sub.3") (corundum)).ti. and (substrate with temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:56
S33	142	S32 and sputter\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 11:57
S34	22	((aluminum adj oxide) (alumina) ("al.sub.2o.sub.3") (corundum)).ti. and (substrate near5 temperature near5 (adjust\$3 chang\$4 ramp\$3 decreas \$3)) and sputter\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:26

S35	20	((aluminum adj oxide) (alumina) ("al.sub.2o.sub.3") (corundum)).ti. and (substrate near5 temperature near5 ("600" "700" "800" "650" "750" "850"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:27
S36	133	sputter\$5 same ((alpha adj alumina) (alpha adj aluminum) (alpha-alumina) (alpha-aluminum) corundum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:34
S37	20	sputter\$5 same ((alpha adj alumina) (alpha adj aluminum) (alpha-alumina) (alpha-aluminum) corundum) same (substrate near4 temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:34
S38	26	sputter\$5 same (saphire (alpha adj alumina) (alpha adj aluminum) (alpha-alumina) (alpha-aluminum) corundum) same (substrate near4 temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:36
S39	11	("3911579"   "5292417"   "5693417"   "6217720").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 13:42
S40	50	sputter\$5 and ((reactive oxide poison\$3) adj mode) same (metal transition transitional) adj mode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 14:29

S41	90	sputter\$5 and ((reactive oxide poison\$3) adj mode) same (metal metallic transition transitional) adj mode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 14:36
S42	12	sputter\$5 and ((reactive oxide poison\$3) adj mode) with (seed underlayer initial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 14:46
S43	920	"204".clas. and sputter\$5 and (roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 15:02
S44	360	"204".clas. and sputter\$5 and ((substrate wafer) with roller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/02 15:06
S45	1	("5789071").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/09/03 08:35
S46	10	"204".clas. and sputter\$5 and (alpha) near3 ((aluminum adj oxide) (alumina) ("al.sub.2o.sub.3")) and (aluminum with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:39
S47	44	sputter\$5 and (alpha) near3 ((aluminum adj oxide) (alumina) ("al.sub.2o.sub.3")) and (aluminum with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:41
S48	31	sputter\$5 and (corundum) and (aluminum with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:44



S49	40	decreas\$3 with temperature with (during while) with sputter\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:50
S50	1168	(lower\$3 reduc\$4 decreas\$3) with temperature with (during while) with (deposit\$3 coat\$3) and sputter\$5 not S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:57
S51	682	(lower\$3 reduc\$4 decreas\$3) near4 temperature with (during while) with (deposit\$3 coat\$3) and sputter\$5 not S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 08:58
S52	280	S51 and (aluminum and oxygen)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/09/03 09:08
S53	7	("4314894"   "4347112"   "4608142"   "4684454").PN. OR ("4778580").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2008/09/03 09:15
S54	2	("3574680").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/09/04 08:38
S55	0	("3574680").URPN.	USPAT	OR	ON	2008/09/04 08:41
S56	0	("3574680").URPN.	USPAT	OR	ON	2008/09/04 08:42
S57	755	sputter\$5 and ((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and (higher near3 temperature) with (lower near3 temperature)	USPAT	OR	ON	2008/09/04 08:44

S58	254	sputter\$5 and ((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and (higher adj temperature) with (lower adj temperature)	USPAT	OR	ON	2008/09/04 08:44
S59	3	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and sputter\$5 with (higher adj temperature) with (lower adj temperature)	USPAT	OR	ON	2008/09/04 08:45
S60	52	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and sputter\$5 with (high adj temperature) with (low adj temperature)	USPAT	OR	ON	2008/09/04 08:46
S61	9	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and sputter\$5 with (first adj temperature) with (second adj temperature)	USPAT	OR	ON	2008/09/04 08:49
S62	5	("4970176"   "5267607"   "5270255"   "5318923"   "5775416").PN. OR ("6030510").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2008/09/04 08:50
S63	573	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and sputter\$5 with (decreas\$3 reduc\$3 adj temperature)	USPAT	OR	ON	2008/09/04 08:53

S64	12	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with sputter\$5 with (decreas\$3 reduc\$3 adj temperature)	USPAT	OR	ON	2008/09/04 08:54
S65	0	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with sputter\$5 with ((decreas\$3 reduc\$3) adj temperature)	USPAT	OR	ON	2008/09/04 08:54
S66	1	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same sputter\$5 with ((decreas\$3 reduc\$3) adj temperature)	USPAT	OR	ON	2008/09/04 08:54
S67	7	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same sputter\$5 with ((lower\$3 decreas\$3 reduc\$3) adj temperature)	USPAT	OR	ON	2008/09/04 08:55
S68	41	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with sputter\$5 and (temperature with substrate with (table graph plot \$3))	USPAT	OR	ON	2008/09/04 08:56
S69	2	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with sputter\$5 same (temperature with substrate with (table graph plot \$3))	USPAT	OR	ON	2008/09/04 09:00

S70	30	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with sputter\$5 with (temperature near4 substrate)	USPAT	OR	ON	2008/09/04 09:01
S71	103	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same sputter\$5 with ((varying vary varied change changing changed) near S56 temperature near3 substrate)	USPAT	OR	ON	2008/09/04 09:05
S72	2	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same sputter\$5 with ((varying vary varied change changing changed) near3 temperature near3 substrate)	USPAT	OR	ON	2008/09/04 09:06
S73	11	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same sputter\$5 and ((cooling near3 substrate) with (during near3 (sputter\$5 deposit \$3)))	USPAT	OR	ON	2008/09/04 09:07
S74	19	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and sputter\$5 and ((cooling near3 substrate) with (during near3 (sputter\$5 deposit \$3)))	USPAT	OR	ON	2008/09/04 09:33
S75	8	S74 not S73	USPAT	OR	ON	2008/09/04 09:33

S76	57	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and (cooling near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:36
S77	1	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with (cooling near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:37
S78	2	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with ((chang\$3 vary\$3 varied reduc\$3 lower\$3 ramp\$3 decreas\$3) near3 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:39
S79	2	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with ((chang\$3 vary\$3 varied reduc\$3 lower\$3 ramp\$3 decreas\$3) near5 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:39
S80	6	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) same ((chang\$3 vary\$3 varied reduc\$3 lower\$3 ramp\$3 decreas\$3) near5 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:39
S81	1	("6158823").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/09/04 09:43

S82	1	("6153823").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/09/04 09:43
S83	0	((aluminum adj oxide) corundum alumina "al.sub.2o. sub.3" al2o3) same ((affect effect) near3 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:45
S84	0	((aluminum adj oxide) corundum alumina "al.sub.2o. sub.3" al2o3) same ((result) near3 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:45
S85	26	((aluminum adj oxide) corundum alumina "al.sub.2o. sub.3" al2o3) and ((affect effect) near3 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 09:45
S86	37	((aluminum adj oxide) corundum alumina "al.sub.2o. sub.3" al2o3) and ((affect effect) near3 temperature near3 substrate) same (sputter\$5)	USPAT	OR	ON	2008/09/04 10:48
S87	11	S86 not S85	USPAT	OR	ON	2008/09/04 10:48
S88	2	((aluminum adj oxide) corundum alumina "al.sub.2o. sub.3" al2o3) with ((chang\$3 vary\$3 varied reduc\$3 lower\$3 ramp\$3 decreas\$3) near4 temperature near3 substrate) with (sputter\$5)	USPAT	OR	ON	2008/09/04 13:16

S89	2	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) with ((chang\$3 vary\$3 varied reduc\$3 lower\$3 ramp\$3 decreas\$3) near4 temperature near3 substrate) SAME (sputter\$5)	USPAT	OR	ON	2008/09/04 15:40
S90	5561	((aluminum adj oxide) corundum alumina "al.sub.2o.sub.3" al2o3) and "204".clas.	USPAT	OR	ON	2008/09/04 15:44
S91	217	S90 and aluminum with target and (oxygen o2 "o.sub.2")	USPAT	OR	ON	2008/09/04 15:45
S92	35	"204".clas. and amorphous with (grain adj size)	USPAT	OR	ON	2008/09/04 16:30

### EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	3273	204/192.12.ccls. 204/192.15.ccls. 204/192.16.ccls. 204/192.13.ccls.	USPAT; UPAD	OR	ON	2011/02/16 13:37
L3	155	2 and (alumina (aluminum adj oxide)).clm.	USPAT; UPAD	OR	ON	2011/02/16 13:37
L6	120	3 and (crystal sputter\$3).clm.	USPAT; UPAD	OR	ON	2011/02/16 13:37
L7	94	3 and (condition\$3 pressure heat temperature power voltage volt current).clm.	USPAT; UPAD	OR	ON	2011/02/16 13:38
L8	11	3 and ((first second) near3 step).clm.	USPAT; UPAD	OR	ON	2011/02/16 13:38

2/ 16/ 2011 1:39:39 PM

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